in the presence of oxalic acid or sulfuric acid and that XP 002258554 teaches shell mold binder made from phenol, bisphenol A distillation products and formaldehyde with acid catalysts. The Examiner states that Shimizu produces a phenolic resin from a high molecular weight phenolic compound resulting from reacting bisphenol A and formaldehyde in the presence of an acid catalyst and that Takashima teaches subjecting a bisphenol A cleavage residue to reaction with formaldehyde in the presence of an acid catalyst. The Examiner concedes that the references do not use polycondensation products for the production of refractories but states that the claims are not directed thereto and deems the claims are only directed to a polycondensation product.

Applicants vigorously traverse these grounds of rejection since none of the references anticipate or render obvious Applicants'invention. The claims are written in Jepson form and are directed to improving the production of refracting products. None of the references cited by the Examiner are remotably directed to refractory technology. Refractories are made from raw materials such as magnesia, dolomite, bauxite, corundum, silicon carbide, silicates and other mineral products, carbon in the form of graphite and phenolic resins as binder wherein the components are mixed at various temperature depending on the mixing process followed by a shaping step and then a curing and carbonization step. The process and the influence of the structure of the product is discussed in the brochure submitted with the amendment of June 6, 2005 and particularly page 35. One skilled in the art of refractory technology is not the same as one skilled in the art of phenolic resins which is what the Examiner has cited.

The WO 0146101 reference relates to special biphenolic stillbottom products for laminating kitchen countertops and decorative laminates. Shimizu patent relates to phenolic components produced from special pretreatment of bisphenol A residue for producing molding compounds of improved flexural strength and heat resistance.

The Takashima patent relates to a product from the reaction of formaldehyde, bisphenol A residue and trinuclear bisphenol F fraction used for resin-coated sand particles. Founding binders do not have oxidation resistance because the contact between the sand and resin is destroyed by the hot steel. The sand/resin product has no longer the desired function in contrast to the refractory field which uses carbonization to obtain the desired characteristics of a refractory product. The function of a binder in the refractory field is completely different than the Takashima technology.

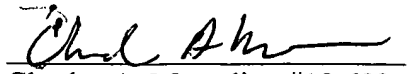
One skilled in the art of refractories would not obtain any information from the prior art cited by the Examiner to increase the carbonization grade of the refractory material. For Applicants' purposes, the resin binder must have a good yield of carbon so that the final refractory has a good durability. In the past, tar pitch was often used as a binder since it had a good carbonization grade but it was difficult to handle so other alternatives were looked for.

It was surprising that refractory products produced with the polycondensation products of the invention have, after the carbonization, a higher carbon yield. Attempts with the raw resin of the polycondensation product show that the carbon yield is

comparable with other raw resin e.g. epoxy resins. But in combination with the further raw materials such as magnesia, dolomite, bauxite, corundum, silicon carbide, silicates or other mineral products as well as carbon in form of graphite, have obtained a high carcon yield. Other resins do not show this phenomenon in combination with the further raw materials. The normal case was, if the raw resin has a bad carbonization yield, the final product has this also. Therefore, the high carbonization yield was surprising and accordingly, the durability of the mineral materials was increased. Furthermore, a higher oxidation resistance was obtained than with corresponding refractory products produced to prior art with phenol novolaks. The polycondensation products are surprisingly soluble in customary industrial solvents having a high boiling point. Therefore, the cited prior art has nothing to do with Applicants'invention and withdrawal of these grounds of rejection is requested.

In view of the above remarks, it is believed that the claims point out Applicants'patentable contribution and favorable reconsideration of the application is requested.

Respectfully submitted,
Hedman and Costigan



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Enclosures